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Margaret Thatcher's coffin, covered in the flag of the United Kingdom, being taken to St Paul's Cathedral

## 'THE IRON LADY' DIES

On 17th April thousands of people lined the streets of a part of London, the capital of the UK. They had come to see Margaret Thatcher's coffin. It was being carried to St Paul's Cathedral on a gun carriage drawn, or pulled, by six black horses. Mrs Thatcher, the UK's first, and so far only, woman prime minister had died ten days earlier. She was 87 years old and had recently been suffering from ill health.

As leader of the Conservative Party Mrs Thatcher became prime minister after an election in 1979. She won two further elections in 1983 and 1987. In 1990 Mrs Thatcher decided to step down, or resign. This was after another member of the Conservative Party challenged her for the leadership. She was the UK's longest-serving prime minister of the 20th century.

Mrs Thatcher was a controversial figure. Many people in the UK believe that she was one of the country's greatest

prime ministers. Yet others disliked her. They claimed that many of the things she did were wrong. Her political beliefs have become known as 'Thatcherism'.

Mrs Thatcher was born Margaret Roberts in a town called Grantham, in 1925. Her father owned two grocery shops. After leaving Oxford University she got a job at a company that made plastics. She also joined the Conservative Party. Around this time she met Denis Thatcher, who was a successful businessman. They married in 1951.

In the early 1950s Mrs Thatcher was selected to be a Conservative candidate in several elections. Yet she had to stand for election in parts of the country where her party was unlikely to win. After failing to become a member of parliament (MP) she studied to be a lawyer. She qualified in 1953. In the same year she had twins, a boy and a girl.

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In the 1959 election Mrs Thatcher stood as the candidate for Finchley, a district of North London. She won. This was unusual, as in those days the UK had very few women MPs.

She was appointed as a senior minister in charge of education after her party won the 1970 election. At that time Edward Heath was the prime minister and the Conservative Party's leader. After losing the next election a number of Conservative MPs were unhappy with Mr Heath's leadership. Mrs Thatcher decided to challenge him. In the vote that followed most Conservative MPs voted for her. She therefore became the first woman to lead the Conservative Party.



Margaret Thatcher in the 1980s

Mrs Thatcher often spoke of her dislike of both communism and socialism. In these political systems everyone is supposed to be equal and the government controls the most important industries. Mrs Thatcher said this was wrong. She believed that people should be able to keep most of what they earn. She also said that they must be allowed to make their own decisions, rather than the government always telling them what to do. If this happened, she argued, people would be willing to work hard for both their families and the country.

In 1976 Mrs Thatcher made a speech that criticised communism and the Russian-led Soviet Union. A Russian newspaper reporter tried to make fun of her. He wrote an article in which he called her 'the Iron

Lady'. Yet she liked the nickname and used it as often as she could.

The next election was in 1979. The Conservative Party won and Mrs Thatcher became prime minister. At that time the UK had many problems. The economy was doing badly, inflation was very high and workers, who were members of powerful trade unions, often went on strike.

A few years earlier the UK had joined what was then called the European Economic Community (EEC). This organisation was later renamed the European Union (EU). Within the ECC the UK was known as 'the sick man of Europe'.

Back then, both in the UK and nearly all other countries, governments ran many of the biggest companies. Governments had originally set some of these up many years ago. Yet the owners of others had agreed, or been forced, to hand over their businesses. A government taking over companies in this way is called nationalisation. In the UK businesses such as oil, steel, mining, carmakers, airlines, and shipbuilding had all been nationalised in the past. The government also controlled the telephone, gas and electricity companies.

Mrs Thatcher and her supporters claimed that government controlled businesses were badly run and inefficient. In the UK there were frequent strikes at these companies. The workers and managers often disagreed. Mrs Thatcher quickly set up a privatisation programme. Privatisation is the opposite of nationalisation.

Many government run companies were sold. Their new owners were then free to operate them as they wished. Several are now some of the world's most successful companies. Examples include: British Petroleum (BP), British Telecom (BT), Rolls Royce (aircraft engines), Jaguar, and

British Airways (BA). In later years, many other countries copied Mrs Thatcher's privatisation programme.

The UK's economy began to improve. However, several government decisions caused problems. Some industries such as coalmining, steel and shipbuilding were closed. This was because the government said they were uneconomic. Thousands of people lost their jobs. There were frequent demonstrations. Many people were angry with Mrs Thatcher for the closure of these industries.

In 1982 Argentina invaded the Falkland Islands (Malvinas), in the South Atlantic Ocean. Around 1,300 people live on the islands, which have been a British Territory for over 150 years. Against the advice of others Mrs Thatcher ordered the leaders of the UK's air force, army and navy to send a military force to the islands. Many people were surprised. This was because the force would have to sail 12,900 kilometres (8,000 miles) to get there. Yet the plan worked. The Argentinian army, which had landed on the islands, surrendered.

People in many other countries admired Mrs Thatcher. She worked closely with Ronald Reagan, the president of the USA. She had frequent meetings with Mikhail Gorbachev, who was the Russian leader when the Soviet Union broke up in 1990. Most countries in Eastern Europe, which were formerly part of the Soviet Union, became independent at this time. Many people who live in them believe that Mr Reagan and Mrs Thatcher helped them to become new democratic nations.

Over 2,000 people, from 170 countries, attended the funeral service. Later Mrs Thatcher's body was cremated. Her ashes were then buried next to those of her husband, who had passed away ten years ago. ■



## NEW TARANTULA

Scientists in Sri Lanka have discovered a new species of tarantula. These types of spider are normally very large and hairy. All have poisonous bites. Even though these bites can be painful they are unlikely to be deadly to humans.

A few years ago the scientists were given a dead tarantula. At the time they thought it might be a new species. Recently the scientists decided to carry out a search to try to find some that were alive. They hoped to be able to catch several live ones so they could learn more about them. To look for them they went to the north of the country, as this was where the dead one had been found.



*Poecilotheria rajaei* (BTS)

The scientists suspected that the spiders lived in trees. So they spent several days looking in forest areas. Michael Rajakumar Purajah, a local police officer, helped them in their search. Eventually they found a female and several young, or juvenile, spiders. However, these were not in the trees but in an old wooden hospital building.

The spiders have colourful markings and a leg span of about 20 centimetres (eight inches). The scientists think they are quite rare. The spiders can move very quickly and seem to prefer to live in dead trees or old wood. In recent years, many of the trees in this part of Sri Lanka have been cut down. This might be the reason why

there are so few of them. It may also explain why the spiders were found in an old wooden building.

The large spiders have a poisonous bite. This can kill birds, lizards, snakes, and small animals. Yet it would not be lethal to humans.

Organising or classifying living things into groups, or types, is called taxonomy. Living things are put into large groups called phyla, then classes, orders, and families. Next comes the genus, and within that the species. The new spider's genus is *Poecilotheria*. This is the name given to all types of tarantula that live in trees. Most of these are found in India and Sri Lanka.

The new spider has been given the name *Poecilotheria rajaei*. The species name comes from the name of the local policeman, who helped the scientists find some of the spiders.

Even though *P. rajaei* is a big spider it is not the largest type of tarantula in the world. The biggest one is found in South America. Called the Goliath birdeater (*Theraphosa blondi*) it can have a leg span of 30 centimetres (12 inches). ■

## SYRIAN REFUGEES

A second camp for refugees from Syria opened in Jordan on 10th April. The next day Turkey announced that it would be setting up two more refugee camps close to its south east border with Syria.

The United Nations (UN) estimates that since the fighting first began in Syria two years ago, around 1.3 million people have left the country. Most have crossed the borders into Jordan, Turkey, Iraq, and Lebanon to get away from the violence.

The fighting in Syria is between the Syrian armed forces and those

## NewsCAST

**CRIME SPREAD(ING)** — Recently there have been a number of unusual thefts in the town of Bad Hersfeld, in central Germany. In the latest incident thieves stole 5,000 jars of Nutella from a parked trailer. Nutella is a popular sandwich spread, which is made from chocolate and hazelnuts. Ferrero, a well-known chocolate company from Italy, makes the spread. There are several Nutella factories in Europe. The stolen jars of Nutella, which weighed roughly 5.5 tonnes, are thought to have a value of about £13,800 (€16,000). In the same town thieves have also recently got away with a truckload of coffee. Over 30,000 cans of a certain type of drink have also gone missing. The police are still trying to catch the criminals.

who are opposed to the president of Syria, Bashar al-Assad. Mr al-Assad and his family have controlled Syria for over 40 years.

The violence started after the government ordered the army to use weapons to stop street protests. The protesters were demonstrating against Mr al-Assad and his government. They claimed that most government officials in the country were corrupt, or dishonest, and that the police have too many powers.

As the fighting spread, some members of the Syrian army changed sides and joined the protesters. Yet many people in certain parts of the country still support Mr al-Assad and his government. More recently fighting has been taking place in Syria's two largest cities, Damascus, the capital, and Aleppo. So far it's thought that the fighting

has been the cause of at least 70,000 deaths. Many of those who have been killed are civilians.

Some of the anti-government fighters, or rebels, formed an organisation known as the Free Syrian Army (FSA). Last year a group called the Syrian National Coalition (SNC) was set up. This group is supposed to represent all those who are opposed to Mr al-Assad and his government. Yet there are several other armed opposition groups that are now also fighting against the Syrian army.

Many other nations, such as the USA, the UK, Turkey and a number of Arab countries in the Middle East, have declared that they support the SNC. However, these countries are reluctant to supply the rebels with anti-tank and anti-aircraft weapons, which the rebel commanders say they need.



Without these weapons the rebel leaders say it will be difficult for them to defeat the Syrian army and air force. Some now think that the fighting is likely to continue for months and possibly years. It's therefore expected that more and more refugees will try to leave the country.

The UN predicts that within the next eight months the number of Syrian refugees will increase from 1.3 to 4 million. If this happens it will cause many problems in the surrounding countries.

Jordan opened its first refugee camp at a place called Zaatari last year. It was built for 50,000 people. But some say that as many as 140,000 may now be living there. The UN is paying for the Zaatari camp. It is run by the UNHCR (United Nations High Commission for Refugees).



Zaatari refugee camp, in Jordan

The new camp in Jordan has been built at a place called Mrajeeb al-Fhood. Like the Zaatari camp it is not far from the Syrian border. The United Arab Emirates (UAE) is paying for the camp. The country's Red Crescent Society will run it. This is a humanitarian organisation that is similar to the Red Cross. The camp has enough room for 25,000 refugees.

Turkey now has 17 refugee camps along its 900-kilometre (560 mile) border with Syria. Turkish officials say that around 400,000 Syrians are now living in these camps. ■

## POPE STATUE UNVEILED

On 13th April a huge statue of Pope John Paul the Second was unveiled in southern Poland. The statue is on a hill that overlooks the city of Częstochowa.

John Paul was the Pope, or leader of the Roman Catholic Church, from 1979 until he died in 2005, aged 84. During this time he lived in the Vatican, the headquarters of the Roman Catholic Church, in Rome. John Paul's original name was Karol

Wojtyła. He was born in the Polish city of Wadowice.

Most people in Poland follow the Roman Catholic faith. Yet many were surprised when John Paul was chosen as the new pope, or pontiff, in 1979. This was because for over 450 years all the previous popes had been from Italy. What's more, at that time, Poland had a communist government and the country was still part of the Russian-led Soviet Union. When he was selected as the new pontiff John Paul was the archbishop of Kraków, the second largest city in Poland.

After John Paul became pope he became well-known all around the world. During his 27 years as the leader of all Roman Catholics he visited around 120 countries. He often spoke out about freedom. Some believe that he was one of the people who helped to bring about the fall of communism in eastern European countries, such as Poland. This soon led to the collapse and break up of the Soviet Union.

One of Poland's most important religious sites is in the city of Częstochowa. Called Jasna Góra it is a monastery that is visited by tens of thousands of people. Many come to see the Black Madonna of Częstochowa. This is an icon, or religious painting, of the Virgin Mary and the baby Jesus, who Christians believe is the Son of God. Some Catholics think that the icon has powers that can work [miracles](#).

The statue is of John Paul standing with his arms outstretched. It is 13.8 metres (45 foot) high and weighs five tonnes. The statue has not been carved out of stone. Instead it has a steel frame that is covered in fibreglass.

Leszek Lyson paid for the statue. Three years ago Mr Lyson saved

his son from drowning while on a family holiday in Croatia. He says that he wanted to put up the statue of John Paul as a way of giving thanks for the life of his son.



Statue of Pope John Paul the Second, in Częstochowa

Not everyone is pleased with the new landmark. Some argue that fibreglass is the wrong type of material to use for an important statue. Others complain that the statue is facing away from the city and not towards it. ■

## ANCIENT ANCESTOR?

In 2008 a young boy joined his father on a fossil-hunting trip to Malapa, a well-known cave area near Johannesburg, in South Africa. The boy made an amazing discovery. He found some very old bones that some scientists now think could be a link between the first ancient humans and apes.

The bones belonged to an ancient hominid that lived nearly two million years ago. Hominid is the name given to what scientists call the 'great apes'. These include living and extinct gorillas, orang-utans, some types of monkeys, and humans.

The ancient hominid was given the name *Australopithecus sediba*. Sediba is a local African word for a spring, or well. *Australopithecus* means 'southern ape'.

A new study has just been completed on the bones that were found

in South Africa. These seem to show that some of this ancient hominid's bones were similar to human bones, but that others were more ape-like.

The Malapa caves are in a region nicknamed the 'Cradle of Humankind'. This is because several fossils of ancient human ancestors have been found in the area. Some are believed to be around 2.5 million years old.

When the boy found one of the bones his father thought it was from a modern-day animal. Yet he then realised it looked like a human collarbone. Close by he saw a jawbone of what he knew to be a hominid.

It took many months to carefully dig up the bones in the area. Later they were found to have belonged to a boy aged eight or nine and to an adult female that was between 20 and 30 years of age. It's thought that the adult was the boy's mother. Both sets of bones are believed to be between 1.78 and 1.95 million years old. Both mother and son would have been around 1.25 metres (4.1 feet) tall.



The bones of the two ancient hominids. Young boy (left) mother (right)

Although the bones were found near the surface of the ground scientists think both hominids died in a deep cave or sinkhole. It's possible

that they were looking for water. Their skeletons were washed into an underground pool where they were covered in mud and preserved. A long time later the roof of the cave collapsed. Over millions of years the rocks were worn down, or eroded. So what was an underground pool is now close to the surface.

Nearby the scientists also discovered the fossilised bones of 25 different animals. These included wild cats and dogs, mice, rabbits, and a horse. These too must have been swept into the underground pool. A few other hominid bones were also found.

As part of the new study the bones of the mother and son were used to try to make a more complete skeleton. The skeleton shows that *Au. sediba* had a 'mixture' of both human- and ape-like bones. For example, its heel was narrow like an ape's but its hip, pelvis, knee, and teeth were more like those from a human. The hands also look human-like yet the upper arms are more similar to those of apes.

From studying the bones scientists believe that *Au. sediba* was able to climb trees and walk upright. Yet the shape of the bones of the ancient hominid's feet mean they must have turned inward when it walked. ■

## BED BUG SOLUTION?

A group of scientists in the USA have announced that they may have found an effective way of getting rid of bed bugs. They are working to produce a special material that traps the small insects. Their idea is based on a solution, or **remedy**, that has been used for hundreds of years in an area of South East Europe called the Balkans.

Bed bugs (*Cimex lectularius*) can be up to five millimetres (0.2 inches)



long. Like mosquitoes, they feed on human blood. The insects are see-through, or transparent, before they bite and feed. They can therefore be difficult to spot. Once bed bugs have filled themselves with human blood they have a pinkish-brown colour.

The insects can live in beds, carpets, behind wooden walls, and in the padded parts of sofas and chairs. It's thought that people travelling to different countries and from place to place spread the bugs.



Bed bug

Female bed bugs lay about six eggs a day, or 300 to 500 during a lifetime. The insects feed only once every five to ten days. If there are no humans about the insects can hide away for over a year and then come out to feed when they get the chance. Although their bites can be sore and itchy, bed bugs do not, as far as doctors know, carry or spread disease.

Many years ago bed bugs were a problem in the USA and Europe. A chemical called DDT was developed in the 1940s, which got rid of them. This seemed to have solved the problem and many people thought bed bugs had disappeared.

However, in 1972, DDT was banned. This was after it was discovered that the chemical could be harmful to human health and damage the environment. In recent years the number of bed bugs in certain countries, such as the USA, seems to have been increasing. Some scientists even think bed bugs have developed

a resistance to certain types of insect-killing chemicals, or pesticides.

In Balkan countries such as Bulgaria and Serbia there is a traditional solution to bed bugs. People will put leaves from the kidney bean plant on the floor around their beds. The bugs, which come out at night, sense the person sleeping on the bed. Yet when they crawl towards them the insects get trapped on the leaves. The following day the leaves are picked up and burnt.

The scientists studied the leaves to find out what was trapping the insects. They discovered that the kidney bean leaves were covered in microscopic, or very tiny, sharp hair-like hooks. These are what trap the insects.

Bed bugs have what's known as an exoskeleton, or hard outer covering. This also covers their legs. Yet the leaves' tiny hooks are able to pierce, or go through, the thinner parts of the bed bugs' legs where they bend. Once one leg is caught the insect tries to free itself by moving its other legs. These then also get 'hooked' and the insect is unable to move.

The scientists have tried to make a synthetic, or made-made, material that has the same type of tiny hooks as the leaves. In tests it is not as effective. But the scientists are sure that they will be able to improve it. In future strips of this material could be used where bed bugs are a problem.

Using things found in nature to produce man-made items was once known as 'bio-mimicry'. Today it is more commonly called 'bio-inspired design'. Probably the best-known bio-inspired design is Velcro. The idea for Velcro came from the seeds of a certain plant. The seeds have hundreds of tiny hooks, which stick to clothing or animal fur. Velcro 'fasteners' are now used

for children's shoes, trainers, coats, and outdoor equipment such as rucksacks and tents. ■

## MYSTERIOUS STONE MOUND

Archaeologists in Israel have found an unusual mound made of large stones under the waters of the Sea of Galilee. They think it might be man-made and about 4,000 years old. Yet they are unsure what it is or why it was built.

The Sea of Galilee, which is also known as Lake Tiberias, is a large freshwater lake. It is around 13 kilometres (eight miles) wide and 21 kilometres (13 miles) long. The lake is shaped like a harp or lyre – a stringed instrument from ancient Greece. In Hebrew the Sea of Galilee is known as the 'Kinneret'. Some people believe this name comes from the Hebrew word for harp.



Satellite picture of the Sea of Galilee

The water in the lake comes from underground springs and the River Jordan, which flows through it. The Sea of Galilee is just over 200

metres (656 feet) below sea level. This makes it the lowest freshwater lake in the world. The world's lowest lake is the nearby Dead Sea. Yet, unlike the Sea of Galilee, the Dead Sea contains salt water.

Researchers first discovered the large mound, or pile of stones, ten years ago. At the time they were carrying out a sonar, or underwater, survey of the bottom of the lake. Yet it is only recently that divers have visited the mound for a closer look.

The giant pile of stones is cone shaped. It has a diameter of about 70 metres (230 feet) and is ten metres (33 feet) high. It is therefore about the size of Stonehenge, a famous ancient monument in the UK. The mound is made of thousands of large stones, or boulders. The stones are roughly one metre (three feet) long.

The highest part is around 20 metres (66 feet) below the surface of the lake. So it was either made when the level of the lake was much lower, or it was meant to be underwater. Either way it would have needed a lot of organisation and effort to build it. None of the boulders look as if they have been carved or shaped.

The archaeologists say that the pile of stones does not look as if it has formed in a natural way. If it hasn't then it must be man-made. Not far away, on the shores of the lake, are the ruins of the ancient city of Bet Yerah. This city is also thousands of years old. So the people who lived in Bet Yerah may have made the mound.

Long ago stones were piled up to mark graves. The mound could therefore be the burial site of an important person. Another possibility, the archaeologists say, is that the mound was a type of fish nursery. The stone pile may have encouraged fish to gather in this place. If so the fish may have been easier to catch.

The archaeologists now plan to carry out further underwater investigations. They hope to find some items that will help them to work out the exact date the mound was made as well as its purpose. ■

## TEMPLETON PRIZE AWARD

This year's Templeton Prize has been awarded to Desmond Tutu. Mr Tutu is best known as both an anti-apartheid and peace campaigner. As a former archbishop of Cape Town he used to be the leader of the Protestant, or Anglican, Church of South Africa.

The Templeton Prize was first awarded in 1972. It was set up by, and named after, Sir John Templeton (1912 – 2008). He was a very wealthy British business owner who was born in the USA.

Templeton felt that while there were important international awards such as the Nobel Prize for peace, chemistry, physics, medicine, and literature, there were no prizes to celebrate spiritual and religious things. He decided to set one up. The Templeton Prize is awarded to people who try to bring science and religion together, or for research and discoveries about spiritual feelings and thoughts.

Previous winners of the Templeton prize include the Dalai Lama and Mother Teresa (1910 – 1997). The Dalai Lama is the spiritual, or religious, leader of Buddhists. He is from Tibet, a region of China, but now lives in northern India. Mother Teresa was a Roman Catholic nun. She became well known for her life-long humanitarian work in the city of Kolkata (or Calcutta), in India.

The winner of the Templeton Prize receives around £1.1 million

(US\$1.7 million). This makes it one of the largest money prizes for this type of award in the world. A group, or panel, of judges decides who will receive the award.

Until 1990, the South African government had a policy called apartheid. Under apartheid rules, the population was segregated into racial groups. Everybody had to carry identity papers saying to which racial group he or she belonged.

Black South Africans were not allowed to live and work in areas set aside for white people, unless they had been given a special pass. A black person found in a 'whites only' area without a pass would be arrested. Black people were not allowed to vote in elections. Furthermore they could not go to certain hospitals and schools as they were for 'whites only'.

The governments of many other countries disagreed with the apartheid regime. Some refused to trade with South Africa or deal with its government.



Desmond Tutu

Archbishop Tutu frequently spoke out about apartheid. In 1984 he was awarded the Nobel Peace Prize. Eventually, F W de Klerk, who became South Africa's president in

1989, agreed to end apartheid in the country. Nelson Mandela and many other black political prisoners were released the following year.

Elections, in which black people were allowed to vote for the first time, took place in 1994. Mr Mandela, who had been a prisoner for 27 years, won. Once the election result was known Archbishop Tutu was chosen to be the person whose job it was to introduce South Africa's first black president to the nation. The year before the election Mr Mandela and Mr de Klerk were jointly awarded the Nobel Peace Prize.

The organisers of the Templeton Prize said that Archbishop Tutu had been given the award for his lifelong promotion of 'love and forgiveness'. He will be presented with the prize at a special ceremony that will be held on 21st May in London, the capital of the UK. It's thought that the archbishop has already made plans to give all of the prize money to several charities in South Africa. ■

## VAISAKHI FESTIVAL

On 13th and 14th April Sikhs celebrated the annual Vaisakhi (also known as Baisakhi) festival. The largest celebrations were in the Punjab region of northern India, which is the Sikh homeland.

For many Sikhs Vaisakhi has two meanings. The first is that it is the start of the season during which wheat is harvested in the Punjab. The second is that it marks 'the birthday' of Sikhs, or the formation of the Sikh community in 1699.

In the Sikh religion a guru is someone who is looked up to for having great knowledge and wisdom, or enlightenment. Gurus are also teachers. The principles, or

main ideas, of the Sikh religion are those that were taught by Guru Nanak and by the gurus who came after him.

The 10th Sikh Guru was Guru Gobind Singh. In 1699 he called on his followers to meet at the city of Anandpur Sahib, in the Punjab. He then asked them to take part in a special **baptism**. After the baptism ceremony he asked the people to live their lives following certain rules. These included being fair, treating all people equally, not to cheat or lie, and to give to charity.

At this time Guru Gobind Singh created the Khalsa. This means 'being pure' or 'being free'. Sikhs **initiated** into the Khalsa were to have a certain look, or appearance. This can be described as the five 'Ks'. These are uncut hair, a wooden comb, an iron bracelet, a type of underwear made from cotton, and a curved sword or dagger. In the language used by Sikhs all of these items begin with a K. Each item represents an ideal of Sikhism such as honesty, equality and helping or protecting the weak.



Vaisakhi parade in Vancouver

Nowadays many Sikhs live in other countries, such as Canada, the UK and the USA. This means Vaisakhi celebrations are not just held in the Punjab but are organised in cities all around the world. For example, one of the largest Vaisakhi parades takes place in the city of Vancouver, in Canada.

## NewsCAST

**COOL RACE** — A man from Ireland has recently won what must be the world's coldest race. He was running in the North Pole marathon. This is the eleventh year that the race has been run. The event takes place near a Russian ice station. Russian soldiers set up the course and a camp for the competitors. The soldiers guard the route of the race. They are armed with rifles just in case there is a polar bear attack. The organisers said that this year the weather was good. The sky was clear and the temperature was around -30°C (-22°F). There were 46 competitors from all around the world. The winning time for the 42-kilometre (26 mile) course was three hours 49 minutes and 29 seconds.

This year's parade in Vancouver was held on 13th April. It followed a ten-kilometre (six mile) route. It began at a gurdwara, or Sikh temple. Sikhs in turbans and colourful dress marched in front of the gurdwara's **float**. Other floats were organised by local Bhangra groups and Punjabi schools. Bhangra is a type of Sikh traditional dance. The organisers of the Vaisakhi parade in Vancouver said that around 100,000 people either took part or lined the streets to watch. ■

## DINOSAUR EMBRYOS

A team of palaeontologists – scientists who study fossils – from Canada, have been studying hundreds of tiny dinosaur bones. The bones come from a number of **embryos**, or dinosaurs that had not yet hatched from their eggs.



The tiny fossilised bones were discovered in China by researchers from Taiwan. They are thought to date to what's known as the Early Jurassic period, or about 195 million years ago. The scientists say that the embryo fossils are some of the oldest ever found.

The embryos were originally inside eggs that were laid by a type of dinosaur called *Lufengosaurus*. Adult *Lufengosaurus* had long necks and grew to a length of about nine metres (30 feet). They seemed to like to lay their eggs close to rivers. It's possible that they did this so that their eggs would become partly buried in damp soil.



Artist's impression of *Lufengosaurus*

The researchers who found the fossils first noticed a line of small bones on some farmland. They dug down where the line started. Within a small area they found about 200 tiny bones. Some were even smaller than the lead in a pencil. It's thought that the bones came from about 20 different embryos.

Other scientists studied the place where the fossilised embryos were found. They think that there were a number of *Lufengosaurus* nests close together. The river began to flood and the eggs were covered in water. The embryos inside them then died. When the river water subsided, or went down again, the eggs rotted away leaving a pile of tiny bones. The bones came from several different nests. So the embryos were

at different stages of development, or growth.

The scientists found only a few tiny skulls amongst the bones. But there were 24 femurs, or thigh bones. Most were no longer than 2.5 centimetres (one inch). By studying the shape and the holes in the bones the scientists worked out that the embryonic dinosaurs must have been growing very quickly. Also there were some ridges on the thigh bones. These are known to develop when muscles are pulling on bones. This means that the embryos of this type of dinosaur probably moved inside their eggs before they hatched. This is similar to a human baby 'kicking' inside its mother's womb.

Scientists are now sure that the birds of today are related to dinosaurs. This was first suggested over 70 years ago, as there are similarities between birds' skeletons and the fossilised skeletons of some dinosaurs. The way that the dinosaurs' embryos seem to grow very quickly and move inside their eggs is also similar to modern-day birds. ■

## MAYAN CALENDAR CHECKED

A team of American anthropologists – people who study humans and their behaviour – have managed to accurately date a wooden beam from a Mayan temple, in Guatemala. The date means that they have been able to double check how the international, or Gregorian, calendar matches up, or correlates, with the calendar that the Maya people used.

The Mayan civilisation existed for thousands of years. Historians believe it eventually began to decline around the year 900 CE. From this time on many impressive Mayan buildings, including huge stone

pyramids, gradually became lost in the jungles of Central America. Nobody is sure why the civilisation declined. Yet some experts now think a drought, or lack of rain that lasted for many years, was the probable cause.

The Maya lived in areas that are now southern Mexico, Guatemala, Belize, and parts of Honduras and El Salvador. The Spanish took over these areas in the 1500s. Yet the Maya never disappeared completely. Today many people who live in these countries are descended from the Maya. Some still speak Mayan languages and follow Mayan customs.

The ancient Maya people created a system of writing that used symbols called glyphs. Yet the knowledge of this writing died out soon after the Spanish arrived. Today, many of the ancient glyphs have been **deciphered**, or decoded, and experts are able to understand what most of them mean.

The Maya had an impressive knowledge of the planets, the stars and how the Sun appeared to move across the sky. They created a complicated calendar. Known as the Long Count, their calendar marked time in cycles, called Baktuns, which were roughly 394 years long.



Mayan pyramid

However, the Maya stopped using the Long Count long before the Spanish arrived. How it worked was forgotten. Over 100 years ago

explorers found ancient Mayan buildings in the jungles. Glyphs for Long Count dates were carved on ancient stone monuments. Yet no one knew how to match them with the international calendar dates.

In 1905 a scientist called Joseph Goodman worked out how the two calendars could be correlated. Later two other researchers added to what Goodman had done. Their method of matching the dates is known as the Goodman-Martinez-Thompson (GMT) correlation. This is based on several planet and star observations, which the ancient Maya recorded, as well as some old Mayan writings, or texts.

Using the GMT the Long Count began in 3,114 BCE. The number 13 was important to the Maya. If the 3,114 BCE date was correct then 21st December 2012 was when the 13th Baktun ended. Before this date arrived some people suggested that it marked the end of time and would be the day on which the world was destroyed. So the end of the 13th Baktun would only be on 21st December 2012 if the GMT method were correct.

A wooden beam, or lintel, that was dated is in a temple in a place called Tikal. The beam has a battle scene carved on it. In the battle the king of Tikal defeated the leader of a rival kingdom. Using the GMT correlation the date of the battle was 695 CE. Wood from this beam had been dated many years ago. Yet today this type of dating can be done far more accurately.

The 'new' date for the beam was between 658 and 696 CE. Some of the difference, the anthropologists say, can be explained by the carving of the lintel. They think at least 15 years of tree growth would have been removed when the wood was carved. The anthropologists say that

the date of the beam shows that the GMT method is right. So 21st December last year was the end of the 13th Baktun. ■

## LONG TRAVELLED FISH

Many people have been visiting an aquarium, in the state of Washington, in the USA, to see a special fish. The small striped beakfish has managed to complete an unusual journey. Officials at the aquarium think it came from Japan. Yet it didn't swim across the Pacific Ocean. Instead it made the 8,000-kilometre (5,000 mile) crossing in a boat.

The fish was recently found inside a skiff, or a small type of wooden boat, which had washed up on the USA's Pacific coast. Striped beakfish are about the same size as the palm of a person's hand. They are normally found in shallow seawaters around Japan and Hawaii.



Striped beakfish

The small boat, which is 5.5 metres (18 feet) long, has a Japanese name on its side. It's thought that the skiff must have been dragged out to sea by the tsunami, or giant wave, that hit part of Japan two years ago.

On 11th March 2011 a powerful undersea earthquake struck off the coast of north east Japan. The earthquake, together with the tsunami that followed, was Japan's worst natural disaster for over 100 years.

The undersea earthquake was one of the most powerful ever recorded. It forced a large part of the seabed to suddenly move upwards. The violent shaking on land damaged buildings, roads, dams, and bridges. However, what caused the most damage was the tsunami, or huge surge of seawater, that followed.

In some places the tsunami reached ten kilometres (6.2 miles) inland. Thousands of buildings, especially those made of wood, were destroyed. The wave then dragged a lot of **debris** back out to sea. This included cars, small planes, boats, large pieces of wooden buildings, and hundreds of household items such as refrigerators, beds, and clothing.

Scientists calculated that the tsunami created around 25 million tonnes of debris. About five million tonnes were swept out to sea. Much of it has sunk. Yet ocean currents in the northern Pacific Ocean have been slowly carrying about two million tonnes of floating wreckage towards the coastlines of Canada and the USA.

Bits of debris from Japan have been arriving on the Pacific coastline of North America for the last 12 months. Last year a large Japanese fishing boat was spotted. It was very rusty and no one was on board. The Japanese owner did not want it back so a decision was made to sink the boat. Parts of a floating dock have also washed up on the shore.

Even though the skiff was floating there was a lot of water inside it. As it was upright this water was still inside the boat when it washed up on the shore. The people who found the skiff were surprised to discover several striped fish in a **compartment** at the back of it. Yet only one was still alive. They took it to the aquarium where it was put inside a large tank.

Inside the boat were other types of sea life including scallops, a sea cucumber, algae, mussels, and small crabs. The water must have contained enough 'food' for the fish and other sea life to survive the two-year journey.

Other living organisms, such as limpets and barnacles, washed out to sea by the tsunami in Japan, have been found in North America. These were attached to some parts of the wreckage such as the floating dock. Yet, so far, the striped beakfish is the only vertebrate (animal with a backbone) that is known to have managed 'to use tsunami debris' to cross the Pacific Ocean. ■

## RIJKSMUSEUM REOPENS

On 13th April Queen Beatrix of the Netherlands officially reopened the Rijksmuseum. The famous art museum, which had been closed for **renovation** for the last ten years, is in Amsterdam, the Dutch capital city.



*The Rijksmuseum in Amsterdam*

The Rijksmuseum was built in 1885. It is the Dutch national museum of art and history. The original building included two large courtyards. Yet in later years these were filled in with extra rooms. Much of the decorative work on the inside of the building was covered over. Long after this work had been done many people began to complain. They said that the museum had too

many small rooms, which were not the right size or shape, to display its famous paintings.

Over ten years ago a decision was made to close the building and change it back to how it used to be. A company from Spain was selected to organise the work. The rooms in the courtyards have been removed and the large areas covered over by glass roofs. A new entrance hall or lobby has been built underground. There are new restaurants and all the building's decorative work and stained glass windows have been restored.

The building was originally designed so that a narrow roadway ran through the middle of it. In later years this became a bicycle path. The Spanish company wanted to close this path but many cyclists complained. Amsterdam has more cyclists than any other European capital. Bicycles are the most popular form of transport in the city. Eventually, it was decided to keep the cycle path. This was one of the reasons for having to build a new underground entrance.

The museum has around 8,000 paintings and other items on display. All, except one, are in different places to where they used to be. The picture that has stayed in the same place is one of the world's most famous paintings. Called *The Night Watch* it was painted by the well-known Dutch artist Rembrandt (1606 – 1669). The large picture is around 3.5 metres (11.5 feet) high and 4.5 metres (14.75 feet) wide.

Many of Rembrandt's other famous paintings are in the museum. The works of other famous Dutch artists, such as Frans Hals (1582 – 1666) and Johannes Vermeer (1632 – 1675), are also displayed.

Now that it has finally reopened officials expect that between 1.5 and

two million people will visit the museum over the next 12 months.

Reopening the museum was one of Queen Beatrix's last official **engagements**. Three months ago the Dutch Queen announced that she had decided to abdicate, or give up the throne. She has been the country's queen and head of state for the last 23 years.



*The Night Watch by Rembrandt*

Queen Beatrix's decision means that her son and eldest child, Willem-Alexander, Prince of Orange, will be the country's new monarch. He will be the first Dutch king since the death of his great-great-grandfather, William the Third, in 1890. Prince Willem-Alexander will officially become the new king on 30th April. ■

## PEACE MARCHES IN COLOMBIA

On 9th April about 150,000 people joined a 'peace march' in Bogotá, the capital of Colombia. Those who took part said they wanted to show their support for peace negotiations, or talks, that are currently taking place. Similar marches were organised on the same day in other cities in the country, such as Cali and Santander.

The peace talks are being held in Havana, the capital of Cuba. Government officials and the leaders of



a militant group known as the FARC (Revolutionary Armed Forces of Colombia) are taking part. Many people in Colombia hope that the talks will finally bring an end to the **conflict** in the country, which first began over 50 years ago.



*Peace march in Bogotá*

The FARC's leaders disagree with the system of government in Colombia. Over the years the group has carried out many bombings and shootings in towns and cities, including Bogotá. One of the FARC's **tactics** has been to capture, or kidnap, people and hold them hostage. Many of the hostages have been government officials and soldiers from the Colombian army. The group then demands a ransom, or payment, for their release.

In the past the FARC made a lot of money from unlawful gold mining and making and selling cocaine, an illegal drug. This money was then used to buy weapons.

Cocaine comes from the coca plant that grows in the Colombian jungle. Large amounts of cocaine, which have been made in Colombia, are unlawfully **smuggled** into other countries, especially the USA. The American authorities want to stop this illegal drug trade. The USA therefore gives the Colombian government money and weapons to be used in the fight against the FARC.

It is estimated that at least 70,000 people have been killed since the conflict began. Thousands of others

have disappeared. Over the years millions of people have had to leave their homes because of the fighting.

Recently the FARC leaders have said that the group no longer makes cocaine. It also denies unlawfully selling it to drug gangs in other countries. But few people believe them.

Several years ago the FARC controlled large areas of Colombia. Yet in recent years the group has had several setbacks. In 2008 its most well-known hostage, Ingrid Betancourt, was rescued. She had been captured in 2002. Ms Betancourt, who was a Colombian politician at the time, is a citizen of both Colombia and France. In 2011 Alfonso Cano, the FARC leader, was killed by Colombian troops in a surprise attack on his jungle base.



*Juan Manuel Santos, president of Colombia*

It's now thought that the FARC have roughly 8,000 well-armed fighters. This, Colombian officials say, is about half the number the group had ten years ago. The leaders of the FARC now operate from secret bases hidden deep in the country's forests.

After the death of the FARC leader two years ago, the president of Colombia, Juan Manuel Santos, announced that he would be willing to hold peace talks with the group's new commanders. They agreed. The talks first began in Oslo, the capital of Norway, at the end of last year. Later they moved to Havana.

At noon on the day of the peace marches church bells rang throughout the country. This was done to remember all those that had died since the fighting first began. President Santos joined the peace marchers in the capital city. He said that he was hopeful that the peace negotiations would succeed. ■

## VOLCANIC ASH OCEAN STUDY

A team of researchers based in the UK has recently completed a study. It shows how a volcanic eruption can affect life in the oceans.

Three years ago the team were on board a research ship not far from Iceland, in the northern parts of the Atlantic Ocean. Just before they arrived Eyjafjallajökull (pronounced aya-vel-lo-kulth), one of Iceland's many volcanoes, erupted.

The eruption threw huge amounts of volcanic ash into the air. This was then spread over a wide area by the wind. The ash, high up in the atmosphere, caused many airports in northern Europe to close. Some were shut for six days. Officials, who were in charge of airline travel and safety, were worried. They said that aircraft engines might be damaged if too many tiny pieces of volcanic ash got inside them.

Much of the ash eventually fell into the seas near Iceland. By chance the scientists were therefore able to study the effect of the ash on the ocean. When taking samples of seawater they noticed that there was a sudden increase in phytoplankton.

Phytoplankton are very tiny, or microscopic, plants. They are found in both salty and freshwater. Most phytoplankton are single-celled organisms. They can join together to form an enormous mass in the

water. A large mass of phytoplankton is often called a bloom.

Phytoplankton needs carbon dioxide, sunlight, and other nutrients such as iron and nitrogen to grow. These small organisms are an important part of the ocean's food chain. Small fish and other marine creatures feed on them. These are then eaten by larger fish, which are a food source for bigger animals and certain types of seabirds.

The volcanic ash meant there was much more iron in the seawater. This explained the sudden increase of phytoplankton. The researchers returned to the same place several months later to take more seawater samples. They discovered that, even though there was still a lot of extra iron in the sea, the amount of phytoplankton was only about 15-20% more than usual. Later the researchers worked out the reason why. The

greater number of phytoplankton had depleted, or used up, the nitrogen in the seawater. Without nitrogen the phytoplankton blooms would not get any bigger.



*Eyjafjallajökull eruption*

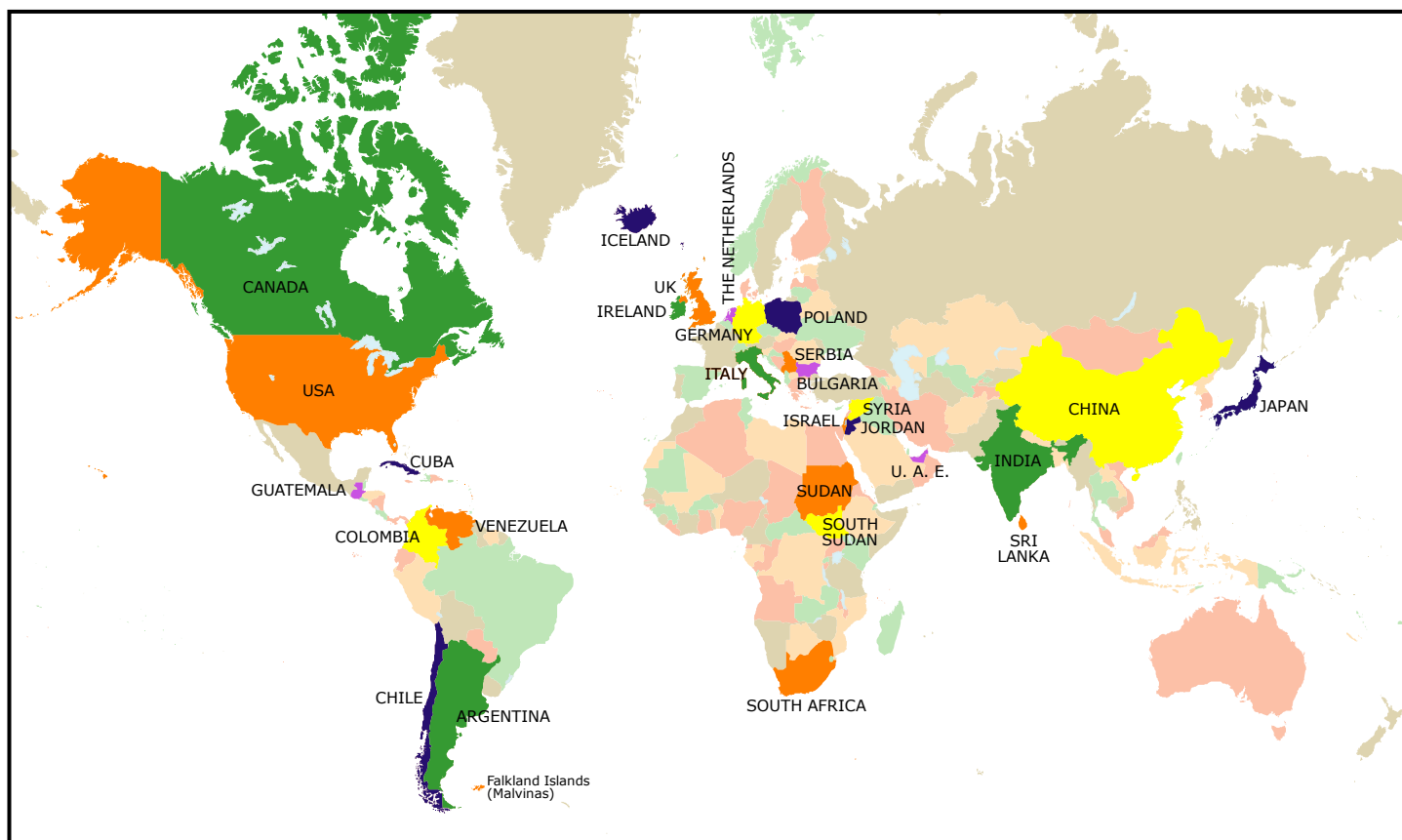
The researchers' study therefore shows that extra iron in the sea will create blooms of phytoplankton. Yet the amount of nitrogen in the seawater will limit the size of the blooms.

Most scientists agree that increased amounts of carbon dioxide in the atmosphere are causing average world temperatures to rise as well as

climate change. Much of the extra carbon dioxide comes from burning fossil fuels – oil, gas and coal. The scientists claim that this extra carbon dioxide is now acting like the glass of a greenhouse. When the sun shines through it the air inside gets warmer.

In the recent past some people have said that adding iron dust to the oceans might be a way of reducing the amount of carbon dioxide in the air. The iron, they suggest, would produce large phytoplankton blooms. These would then absorb more and more carbon dioxide from the air. These types of ideas are known as geo-engineering.

However, the researchers' study of the effects of volcanic ash in the oceans seems to show that this idea wouldn't work. As, even if huge amounts of iron dust were put in the oceans, the phytoplankton would not increase by more than 15-20%. ▣



## MARATHON BOMBINGS

On 15th April two bombs exploded in Boston, in the state of Massachusetts, in the USA. The Boston Marathon was being run at the time. Both bombs had been placed near to where the runners, who were taking part, finished the race. The bomb explosions killed three people and injured around 170, many of them seriously.



*Boston Marathon*

Marathon races are supposed to be exactly 26.2 miles (42.17 kilometres) long. Both the name 'Marathon' and the race come from an Ancient Greek legend. In the legend there was a battle at a place in Greece called Marathon. It was between a Greek army and the Persians. The Greeks won. Then a messenger, called Pheidippides, ran all the way to Athens to tell the people living in the city what had happened. After passing on the message Pheidippides collapsed and died of exhaustion. The distance he ran was supposed to be 26 miles and 385 yards.

The Ancient Greeks organised the first Olympic Games. The earliest games took place in the 776 BCE. They were held at a place called Olympia. In the 1880s Pierre de Coubertin, a French historian, had the idea of setting up a modern Olympic Games. The first modern Games were held in Athens, the capital of Greece, in 1896. Since then

the Summer Olympics have taken place every four years, apart from two interruptions during the First World War (1914 – 1918) and the Second World War (1939 – 1945).

The organisers of the first modern Olympic Games wanted to include an event that reminded people of the Ancient Greeks. They decided to organise a race that was the same distance that Pheidippides had run. They called it the marathon.

Today many cities, such as London, the capital of the UK, and New York City, in the USA, organise popular marathon races. Yet Boston is the oldest 'city marathon'. The first marathon race in Boston was run in 1887, one year after the first modern Olympic Games marathon. Nowadays tens of thousands of people take part in these city marathons. They include highly trained athletes and many other much slower runners. Many of these slower runners complete the course to raise money for charity.

Each year the Boston Marathon is run on what is known as **Patriots' Day**. This is a holiday in the state of Massachusetts. It takes place on the third Monday of April. Patriots' Day commemorates the first battles of the Revolutionary War, also known as the American War of Independence (1775 – 1783). Then there were 13 British colonies in North America. The war was between these colonies and the Kingdom of Great Britain.

This year around 27,000 people took part in the Boston Marathon. The bombs exploded, roughly 12 seconds apart, about two hours after the faster runners had finished the race. Most of those injured were people who were watching those taking part as they approached the finishing line. Some runners were also injured. A team of doctors was

at the finish to look after any competitors who were suffering from exhaustion. After the explosions the doctors rushed to help those who had been hurt.

The police and the Federal Bureau of Investigation (FBI) are now trying to find out who organised the bombs. Some people think it must have been some type of terrorist attack carried out by a militant group from another country. Yet others are not so sure.

Soon after the explosions in Boston, Barack Obama, the president of the USA, spoke on live television. The president called the attack 'cowardly'. He said everything would be done to catch those who had placed, or planted, the bombs. ■

## DYING TOWN

A small town in Italy, called Civita di Bagnoregio, has decided to start charging tourists to visit it. It's thought that this might be the first time that a town or village in Italy has asked visitors to pay an entrance fee. The money collected will be used to try to stop the town's buildings from falling into the ravines, or steep sided valleys, which surround it.



*Civita di Bagnoregio*

The town, which is usually known as Civita, is about 145 kilometres (90 miles) from Rome, the capital of Italy. In recent years it has been nicknamed 'the dying town'. This is because



## NewsCAST

**BUZZ ALERT** — Police, who were called to a house on one of the Canary Islands, were surprised when they entered it. No one was living there but neighbours were worried about what was happening inside. After forcing the door open the police discovered that the house was full of wasps. In one of the rooms they found a nest. Yet it was not an ordinary wasps' nest, but a giant nest that was seven metres (22 feet) long. The police have sealed the house to stop other people entering. Experts think the nest must contain millions of wasps. They say they are not local wasps and that they probably came from Morocco, in Africa, which is about 100 kilometres (62 miles) away.



the rocks and ground on which it is built are slowly eroding or crumbling away. Rock falls are frequent.

Civita has a long history. The Etruscans founded the town over 2,500 years ago. The Etruscans were a civilisation that existed in ancient Italy before the Romans. Civita overlooks the valley of the River Tiber. This is the river that flows through the city of Rome before reaching the Mediterranean Sea.

Civita was built on a flat area of high ground, or plateau, with steep cliffs on all sides. The rocks of the plateau are known as tuff. These types of rocks were formed from ash from a volcanic eruption many millions of years ago. Tuff can be easily broken up into many tiny pieces.

Over the years, houses close to the edge of the cliffs have collapsed and fallen into the ravines. Earthquakes are not uncommon in this part of

Italy. When these happen bigger parts of the cliffs can fall away. The town used to have a bishop. But at the end of the 1600s there was a serious earthquake. After this the bishop and local officials moved to a nearby town.

Over the last 400 years the population of Civita has got smaller and smaller. Today only 15 people live in the town throughout the year. During the summer months many visitors choose to stay. So at this time there can be as many as 100 people in the town. Civita is a popular place for tourists to visit. This is because its buildings are very old and it has not been modernised. For example, there are no cars in the town.

Recent geological surveys, or inspections of the rocks, have found new cracks and fractures. Some people think it might be possible to stop further rock falls by strengthening some parts of the plateau with rods made of steel.

From next month visitors will be asked to pay €3.00 (£2.50) to enter Civita. The money collected will be used to pay for new engineering work and for the repair of some of the town's buildings. ■

## PRESIDENTIAL ELECTION IN VENEZUELA

The second presidential election in less than seven months took place in Venezuela on 14th April. The election had to be held as Hugo Chávez, the winner of last October's election, died six weeks ago.

Not long after everyone had voted the National Electoral Council, or the organisation that was in charge of the election, declared that Nicolas Maduro had won. Before the vote many predicted that he would win easily. But this did not happen. Mr

Maduro won 50.7% of the votes. His main opponent, Henrique Capriles, got 49.1%. Roughly 15 million people voted in the election. So the winning margin was only around 235,000 votes.

Mr Chávez had been president of the country for the last 14 years. Many people admired him. Yet others claimed that he is to blame for most of the country's problems. He was very popular among the less wealthy people who live in Venezuela. At the last election Mr Chávez beat Mr Capriles by 11%, or by about two million votes.

Venezuela is very dependent on oil. It has the largest proven, or known, oil supplies in the world. Of Venezuela's total economy around 95% of the money it makes comes from oil.



Nicolas Maduro

Henrique Capriles

Mr Chávez, who won four presidential elections, often described the way in which he ran the country as a 'socialist revolution'. He arranged for the government to take control of the large oil, electricity and food companies. He believed that most of the money that these companies made should be used to help less wealthy people. A government taking over and running large companies in this way is called nationalisation.

Mr Chávez spent a lot of money on providing free medical treatment and building extra houses for the poor. He also subsidised, or made less expensive, several of the things

that people most need, such as food, electricity and fuel.

Mr Chávez disliked America. He often accused the USA of interfering in other countries. He claimed that the capitalist policies that the USA government and many other countries believe in were wrong. Mr Chávez liked to support other countries that are anti-American such as Cuba, Iran and Libya (when Colonel Gaddafi was in charge).

Mr Chávez's critics argue that he has ruined Venezuela's economy. They claim that companies run by the government are badly managed and inefficient. There are frequent blackouts, or electricity power cuts, and it is not unusual for some food shops to be empty. In recent years the currency, called the bolívar, has lost much of its value. Violent crime is also a big problem in the larger cities.

Some people wondered if Mr Chávez should have taken part in last year's election because of his health. In 2011 he admitted that he had cancer. A few months before the election he went to Cuba to have an operation. After his return he claimed to have been cured. Yet soon after the election result was announced he returned to Cuba for more medical treatment. Before going he declared that he had chosen Mr Maduro to be the country's vice-president and his successor.

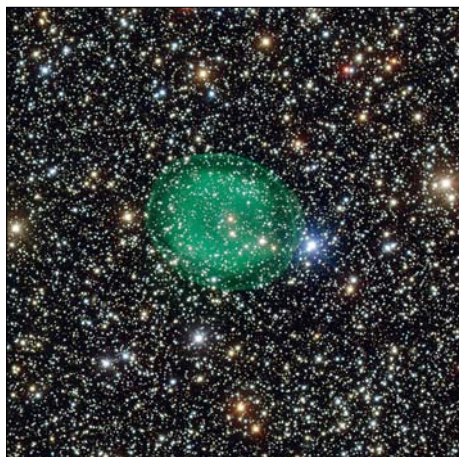
Just before the latest election Mr Maduro said he would govern the country in the same way that Mr Chávez had. Mr Capriles declared that, if he won, he would not change everything that Mr Chávez had done. Yet what he would change would help to solve the country's many problems.

Venezuela uses an electronic counting system in presidential elections. Mr Capriles has refused

to accept the result. He claims that he knows of at least 3,000 incidents where the electronic system did not record the votes correctly. He is now demanding that all the votes be counted by hand to check the result. However, the National Electoral Council says that this is not necessary. It insists that Mr Maduro won. ■

## PLANETARY NEBULA

European astronomers have released a recent image of an unusual planetary nebula. The image looks like a 'ghostly' green glowing cloud of gas. A powerful telescope in Chile, which is operated by an organisation called the European Southern Observatory (ESO), took the picture.



ESO picture of planetary nebula IC 1295

A nebula and a planetary nebula are different. A nebula is an enormous cloud of gas, which is mainly hydrogen and dust in outer space. These are where stars, like our Sun, are formed or born.

A planetary nebula is formed when a star is dying, or coming to the end of its life cycle. When early astronomers, with less powerful telescopes, first saw these objects they thought that they were a type of planet known as gas giants. This

is why they are called planetary nebula. This name is still used even though it's now known they are not planets. Gas giants are mostly made of gas. Examples of gas giants are Jupiter and Neptune, in our Solar System.

The 'green planetary nebula' is known as IC 1295. IC stands for Index [Catalogue](#). This system of recording galaxies and nebulae was used just over 100 years ago.

The speed of light is roughly 300,000 kilometres (186,400 miles) per second. A light year is the distance that light travels in one year. IC 1295 is 3,300 light-years away from the Earth.

The planetary nebula is in a [constellation](#) called Scutum. This is a small constellation that was first named by an astronomer from Poland in the 17th century. Scutum is the Latin word for 'shield'.

Even though IC 1295 was first discovered a long time ago the recent ESO image shows much more detail than previous pictures. The green colour comes from oxygen in the gas cloud.

The lifecycle of a star begins when a cloud of gas in a nebula is pulled together by gravity. It begins to spin faster and faster and heats up to form a protostar.

A process called nuclear fusion then begins. This turns hydrogen atoms into helium atoms and produces light and heat. The cloud starts to glow brightly. At this stage it is called a main sequence star. Our Sun is currently a main sequence star.

The star will stay like this for many millions or billions of years. Yet eventually the hydrogen supply in a star's core runs out. It can therefore no longer produce as much heat and light. The core shrinks, but the outer part of the star expands, cools

and glows red. At this stage the star is known as a red giant.

Later a shell of glowing gas surrounds the star. This is a planetary nebula. At this stage the dying star in its centre is known as a white dwarf. It will slowly cool down and, after millions of years, will eventually become a black dwarf, or a cold, dead **remnant** of a star.

Astronomers think our Sun is about 4.5 billion years old. They predict that in about five billion years it too will turn into a red giant before becoming a planetary nebula. ■

## SUDAN PRESIDENTS MEET

The president of Sudan, Omar al-Bashir, made an important visit to Juba, the capital city of South Sudan, on 12th April. He met with Salva Kiir, South Sudan's president. The two men discussed several agreements they had signed last year. Even though these were made 12 months ago the two leaders have only just started to carry them out.

Many people in both Sudan and South Sudan hope that the recent meeting shows that the two countries will now peacefully work with each other. During the last 12 months some people worried that a war would break out. This was because there were serious arguments about oil and where the border between Sudan and South Sudan should be.

Sudan was a British colony until 1956. Soon after the country became independent, fighting broke out between the north and south. In the northern part of Sudan the majority of people speak Arabic and are Muslims. In the south most are black Africans, who follow Christianity or traditional African religions.

A peace treaty was signed in 2005. It ended the war. An estimated two million people were killed during the fighting and twice as many were forced to leave their homes. As part of the treaty it was agreed that the people living in the south would be allowed to decide if they wanted to be a separate country.



In 2011 a referendum, or vote in which all adults could take part, was held in South Sudan. Nearly 99% of the people voted 'yes' for independence. South Sudan then officially became 'the world's newest country' six months later. Before the countries 'split' into two, Sudan was the largest country in Africa.

However, some important things were not decided by the referendum. There is still an argument about the region of Abyei. Both Sudan and South Sudan claim that this region is part of their country. This is because Abyei has many oilfields.

Sudan used to make a lot of money by selling its oil to other countries. Most of it was sold to China. However, around 70% of the oil that Sudan used to sell came from oilfields that are now in South Su-

dan. However, the pipelines, which transport the oil from these oilfields to the Red Sea, are in Sudan. These pipelines go to a place called Port Sudan where the oil is loaded onto ships.

After South Sudan became a separate country the plan was for it to continue to send its oil along the pipelines to the Red Sea. South Sudan would then pay Sudan for using its pipelines. But both sides argued about the price. Because of these arguments no oil was produced for a long time. This badly affected the economies of both countries.

Last month the two presidents finally made an agreement on the price. Yet it was only a few days before Mr al-Bashir's visit to South Sudan that the oil started to flow again.

During the meeting in Juba the presidents agreed to withdraw their troops from the border area. The idea is to create a demilitarised zone, where no soldiers are allowed. This should reduce the risk of any fighting breaking out along the border. The two men also discussed the Abyei region, but they failed to find a solution. However, they did agree to arrange more talks to discuss this problem in future. ■

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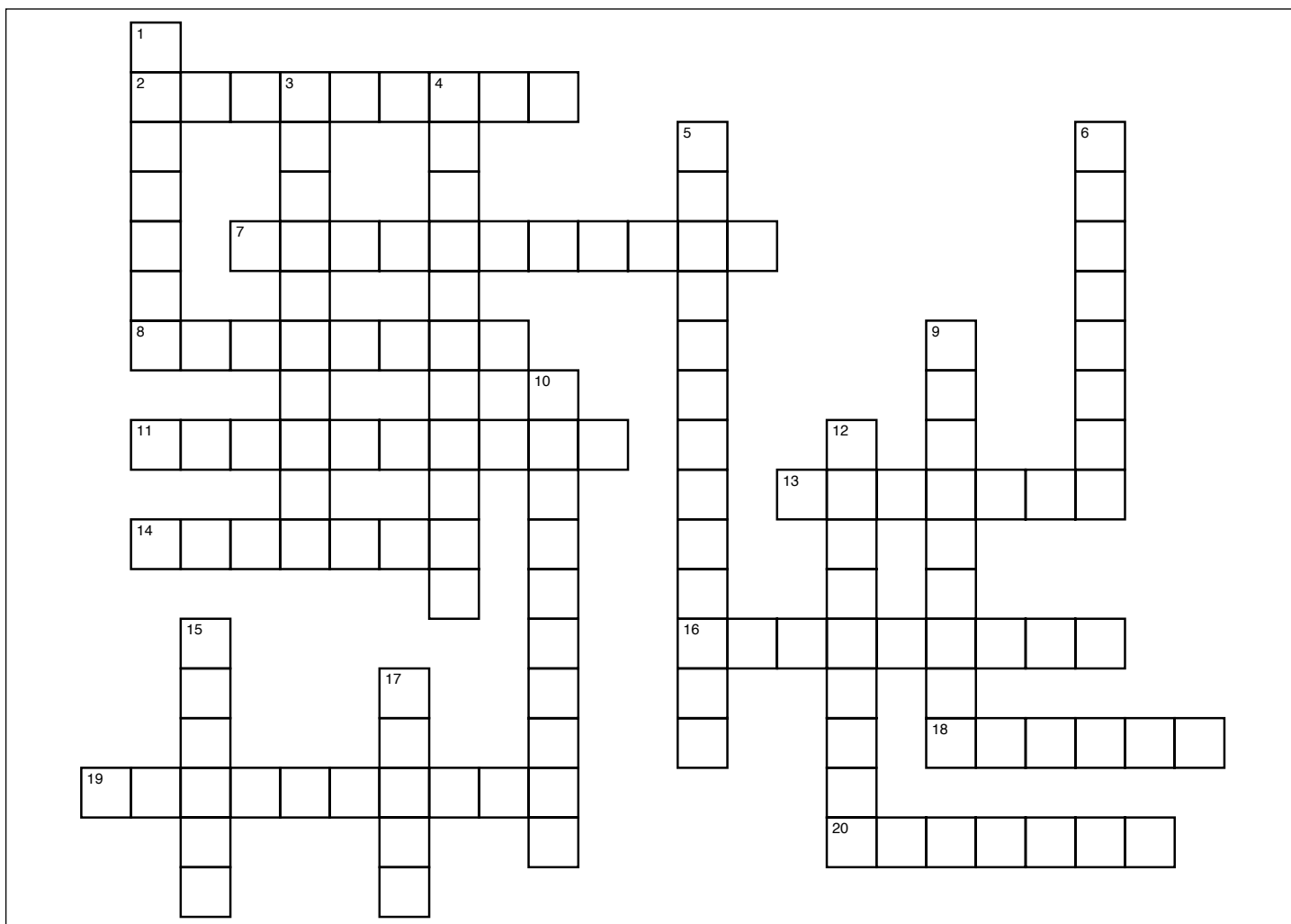
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# ISSUE 195

## GLOSSARY PUZZLE

**INSTRUCTIONS:** ① Complete the crossword. The answers are highlighted in orange in the news stories. There are 25 words highlighted and you need 20 of them to complete the crossword. ② Once you have solved the crossword go to the word search on the next page ➡



### ACROSS

- 2 Noun** Government policy of keeping people of different races apart  
**7 Noun** A small enclosed space normally used for storage  
**8 Noun (Plural)** Amazing or wonderful events that are very unlikely to happen  
**11 Verb** Discovered the meaning of something, especially a code  
**13 Noun (Plural)** Methods used to gain something or achieve an advantage  
**14 Noun** A small part that is left over after the main part has been used or no longer exists  
**16 Noun** A general rise in prices and fall in the value of money  
**18 Noun** Scattered fragments of rock or wreckage  
**19 Adjective** Describes something that is loss-making, or losing money  
**20 Noun (Plural)** Living things that are in the very earliest stages of growth

### DOWN

- 1 Noun** A religious rite or ceremony after which a person, or group of people, become members of a religious group  
**3 Noun** The state of having been restored to a previous or better condition  
**4 Noun (Plural)** Meetings arranged in advance, especially for business or social reasons  
**5 Adjective** Likely to cause arguments  
**6 Noun (Plural)** People who show love or pride for their country  
**9 Verb** Accepted (new members) into a society, or organisation, after a special (often secret) ceremony  
**10 Noun** The power of a living organism not to be harmed by germs or disease  
**12 Noun** A list of things that are in a systematic order  
**15 Noun** Cure for an illness  
**17 Noun** A large vehicle with a flat surface that is decorated and used in festivals and parades

# Issue 195

## GLOSSARY PUZZLE *CONTINUED*

C O M P A R T M E N T Y F R O Q L N  
 O I O V G T S M S I T P A B N X E O  
 N S M P J O A B I U R P W O A Y N I  
 T E N O Y C E C I R A N D O G E O T  
 R T U R N H C P T R A S E D S V I A  
 O A B J M O T N T I W C V E O I T V  
 V M F J Y G C H N B C V L R N D A O  
 E I P E T Z E E K U Z S V E A E L N  
 R X A B A I K M N R I A U H S B F E  
 S C T Z D U F F E U M G R P I R N R  
 I N R Q I R L S E C O V Z I C I I D  
 A T I T A O I I Z L S W M C O S M R  
 L S O R A S G U A Q A J K E E C Z W  
 T O T T T Z D T C W B Q R D O H B T  
 U C S A Z A A T G Z C G J W M G I R  
 N P N D K C R I N I T I A T E D D T  
 G C Q F I R E M E D Y Z R M Z Z U Y  
 E N G A G E M E N T S F T S J S T Z

**INSTRUCTIONS:** ③ Find 19 of the 20 crossword answers in the word search. Words can go vertically, horizontally, diagonally and back to front. ④ After finding the 19 words write down the 20th (or missing) word under the puzzle.

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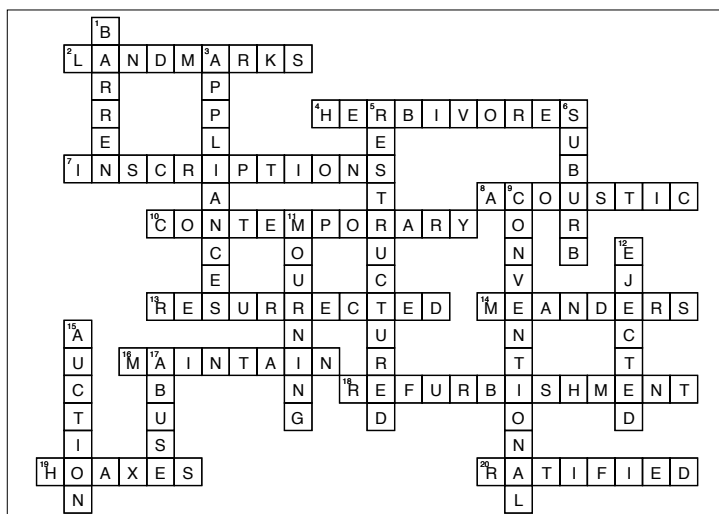


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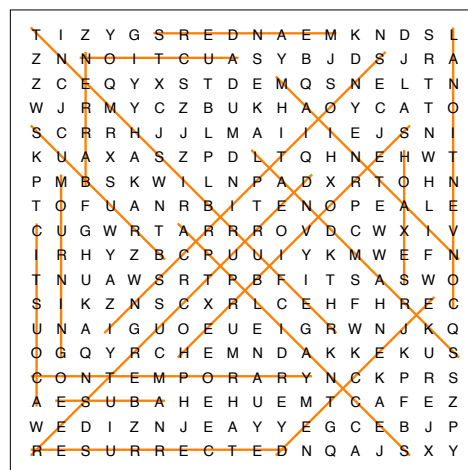
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MISSING WORD ANSWER =



ISSUE 194 ANSWERS



R A T I F I E D